

AMENDMENTS TO THE CLAIMS

The current listing of the claims replaces all previous amendments and listings of the claims.

1. (Previously Presented) A method for decontamination of oily cuttings, coming from drilling oil wells, and recovery of an oily component, comprising:

mixing said cuttings with CO₂ in a liquid state at a pressure ranging from 45 to 70 bar and a temperature corresponding to a saturation value, to dissolve an oily fraction of the cuttings;

removing a liquid phase including the CO₂ and the oily fraction from the cuttings;

expansion and heating of the liquid phase to recover the oily fraction discharged, and to recover the CO₂ in a vapor phase;

cooling and condensation of the CO₂ in the vapor phase for use in a subsequent mixing with other cuttings.

2. (Currently Amended) The method according to claim 1, wherein separation of the oily fraction by at least one of the removing of the liquid phase and the expansion and the heating of the liquid phase occurs at a pressure ranging from 30 to 60 bar.

3. (Currently Amended) The method according to claim 1 or claim 2, wherein the mixing of the cuttings and separation of the oily fraction by at least one of the removing of the liquid phase and the expansion and the heating of the liquid phase take place at a temperature close to the saturation value of the liquid phase.

4. (Previously Presented) The method according to claim 1, wherein cooling and condensation of the CO₂ in the vapor phase occurs after under-cooling of the liquid CO₂ at a temperature ranging from 0 to 5° C.

5. (Previously Presented) The method according to claim 1, wherein the liquid CO₂ is fed to an extraction vessel in a ratio from 2 to 20 times by weight with respect to the cuttings during the mixing of the cuttings with CO₂.

6. (Previously Presented) The method according to claim 1, wherein the liquid CO₂ is moved using a volumetric pump between an accumulation tank and an extractor vessel during removal of the liquid phase from the cuttings.

7. (Previously Presented) The method according to claim 1, wherein the oily fraction is separated by the use of one or more separators.

8. (Previously Presented) The method according to claim 7, wherein at least one of the separators is configured to provide a cyclone effect.

9. (Previously Presented) The method according to claim 7, wherein the at least one separator comprises two separators, and one of the separators is configured to remove the CO₂ vapor by an inertial impact, and another one of the separators is configured to remove the CO₂ vapor by a cyclone effect.

10. (Previously Presented) The method according to claim 7, wherein a filter configured to separate liquid from the CO₂ vapor is situated down-stream of at least one of the separators.